610.5
B86
M49
V.9

CONTENTS OF VOLUME 9

★

NUMBER 1. *Physiology of Vision*

Scientific Editor: W. S. STILES

		PAGE
INTRODUCTION	*Sir John Parsons*	1
Some Problems Concerning the Formation and Circulation of the Aqueous Humour	*Hugh Davson*	5
Factors Controlling Ocular Accommodation	*E. F. Fincham*	18
The Nature of Refractive Errors	*Arnold Sorsby*	22
The Interpretation of Spectral Sensitivity Curves	*H. J. A. Dartnall*	24
Chromatic Aberration and the Polychromatic Theory	*Hamilton Hartridge*	31
Defective Colour Vision	*W. D. Wright*	36
Visual Properties Studied by Subjective Measurements on the Colour-Adapted Eye	*W. S. Stiles*	41
Stimulation of the Retina with Light Fields of Small Size	*L. C. Thomson*	50
Colour Vision in the Peripheral Retina	*R. A. Weale*	55
The Absolute Sensitivity of the Eye and the Variation of Visual Acuity with Intensity	*M. H. Pirenne*	61
Electric Records from the Vertebrate Optic Nerve	*W. A. H. Rushton*	68
Physiology of Vision: A Bibliography of British Books and Periodicals	*Katharine Tansley*	75
Book Reviews		79

★

NUMBER 2. *Some Aspects of Enzyme Research*

Scientific Editor: FRANK DICKENS

INTRODUCTION	*Sir Rudolph Peters*	85
Cytochrome	*D. Keilin & E. C. Slater*	89
Some Aspects of the Energy Transformation in Living Matter	*H. A. Krebs*	97
Alternative Routes of Carbohydrate Oxidation	*Frank Dickens*	105
Phosphate-Transferring Enzymes	*M. Dixon & E. C. Webb*	110
Significance of Biochemical Lesions in the Pyruvate Oxidase System	*Sir Rudolph Peters*	116
Folic Acid and Related Compounds in the Metabolism of Micro-organisms	*D. D. Woods*	122
β-Glucuronidase and Related Enzymes	*G. A. Levvy*	126
The Formation of Peptides in Enzymic Reactions	*Charles S. Hanes*	131
Amino-Acid Decarboxylases	*E. F. Gale*	135
Cholinesterases	*R. H. S. Thompson*	138
Action of Drugs on Enzyme Systems	*J. H. Quastel*	142
Enzymic Oxidation of Amines	*H. Blaschko*	146
Adaptive Enzymes	*Sir Cyril Hinshelwood*	150
Enzymes Acting on Nucleic Acids	*J. N. Davidson*	154
Plasma Alkaline Phosphatase in Disease	*E. J. King*	160
Book Reviews		165

610.5
B86
M49
V.9

CONTENTS OF VOLUME 9

★

NUMBER 1. *Physiology of Vision*

Scientific Editor: W. S. STILES

		PAGE
INTRODUCTION	*Sir John Parsons*	1
Some Problems Concerning the Formation and Circulation of the Aqueous Humour	*Hugh Davson*	5
Factors Controlling Ocular Accommodation	*E. F. Fincham*	18
The Nature of Refractive Errors	*Arnold Sorsby*	22
The Interpretation of Spectral Sensitivity Curves	*H. J. A. Dartnall*	24
Chromatic Aberration and the Polychromatic Theory	*Hamilton Hartridge*	31
Defective Colour Vision	*W. D. Wright*	36
Visual Properties Studied by Subjective Measurements on the Colour-Adapted Eye	*W. S. Stiles*	41
Stimulation of the Retina with Light Fields of Small Size	*L. C. Thomson*	50
Colour Vision in the Peripheral Retina	*R. A. Weale*	55
The Absolute Sensitivity of the Eye and the Variation of Visual Acuity with Intensity	*M. H. Pirenne*	61
Electric Records from the Vertebrate Optic Nerve	*W. A. H. Rushton*	68
Physiology of Vision: A Bibliography of British Books and Periodicals	*Katharine Tansley*	75
Book Reviews		79

★

NUMBER 2. *Some Aspects of Enzyme Research*

Scientific Editor: FRANK DICKENS

INTRODUCTION	*Sir Rudolph Peters*	85
Cytochrome	*D. Keilin & E. C. Slater*	89
Some Aspects of the Energy Transformation in Living Matter	*H. A. Krebs*	97
Alternative Routes of Carbohydrate Oxidation	*Frank Dickens*	105
Phosphate-Transferring Enzymes	*M. Dixon & E. C. Webb*	110
Significance of Biochemical Lesions in the Pyruvate Oxidase System	*Sir Rudolph Peters*	116
Folic Acid and Related Compounds in the Metabolism of Micro-organisms	*D. D. Woods*	122
β-Glucuronidase and Related Enzymes	*G. A. Levvy*	126
The Formation of Peptides in Enzymic Reactions	*Charles S. Hanes*	131
Amino-Acid Decarboxylases	*E. F. Gale*	135
Cholinesterases	*R. H. S. Thompson*	138
Action of Drugs on Enzyme Systems	*J. H. Quastel*	142
Enzymic Oxidation of Amines	*H. Blaschko*	146
Adaptive Enzymes	*Sir Cyril Hinshelwood*	150
Enzymes Acting on Nucleic Acids	*J. N. Davidson*	154
Plasma Alkaline Phosphatase in Disease	*E. J. King*	160
Book Reviews		165

Medical
Soth.

NUMBER 3. *Viruses in Medicine*

Scientific Editor: FORREST FULTON

		PAGE
INTRODUCTION : Viruses Yesterday, Today and Tomorrow	*C. H. Andrewes*	169
Ecology of Virus Diseases	*Sir Macfarlane Burnet*	173
Progress in Viral Immunology	*Wilson Smith*	176
Chemotherapy of Virus Diseases	*E. Weston Hurst*	180
Techniques for the Study of Viruses	*Forrest Fulton*	186
Smallpox and Related Virus Infections in Man	*A. W. Downie & A. Macdonald*	191
Recent Advances in the Study of Poliomyelitis, with Particular Reference to Prevention	*A. J. Rhodes*	196
Coxsackie Viruses	*J. O'H. Tobin*	201
The Common Cold	*C. H. Andrewes*	206
The Viruses of Epidemic Influenza	*A. Isaacs*	208
Mumps	*E. T. C. Spooner*	212
Yellow Fever : A Problem in Epidemiology	*G. W. A. Dick*	215
Hepatitis	*F. O. MacCallum*	221
The Psittacosis-Lymphogranuloma Group of Viruses	*S. P. Bedson*	226
Q Fever in Britain	*M. G. P. Stoker*	231
The Post-Infection Encephalitides	*E. Weston Hurst*	234
Some Veterinary Diseases of Medical Interest	*A. W. Gledhill*	237
Book Reviews		242

INDEX TO VOLUME 9

Names printed in large capitals are those of authors who have contributed articles to the symposia. Titles of books and journals are printed in italics.

A

Accommodation, ocular, controlling factors, 18
Acetokinase, 113
Amine oxidase, discovery of, 146
—— —— distribution of, 148
—— —— in invertebrates, 149
—— —— inhibitors of, 148
—— —— physiological significance of, 148
—— —— properties of, 146
Amines, enzymic oxidation of, 146
Amino-acid decarboxylases, 135
ANDREWES, C. H.: The common cold, 206
—— Viruses yesterday, today and tomorrow; introduction to symposium, 169
Animal diseases of medical interest, 237
Aqueous humour, chemical composition of, 6
—— —— formation and circulation of, 5
—— —— penetration of sulphonamides and thiourea into, 10
Arsenical poisoning, tervalent, biochemical aspects, 117
Arsenicals, action on enzyme systems, 143

B

BACH, S. J.: *Metabolism of protein constituents in the mammalian body*, 165
BALDWIN, E.: *Dynamic aspects of biochemistry*, 167
Barbiturates, action on enzyme systems, 144
BARER, R.: *Lecture notes on the use of the microscope*, 244
BARTON-WRIGHT, E. C.: *Microbiological assay of the vitamin B-complex and amino acids*, 165
BEDSON, S. P.: Psittacosis-lymphogranuloma group of viruses, 226
BLASCHKO, H.: Enzymic oxidation of amines, 146
Blue-blindness, 32
Bone diseases, alkaline phosphatase in, 162
—— phosphatase, 160
—— tumours, alkaline phosphatase in, 163
Bornholm disease, 202
BOURNE, G. H. & DANIELLI, J. F.: *International review of cytology*, vol. 1, 168
BRITISH POSTGRADUATE MEDICAL FEDERATION: *Lectures on the scientific basis of medicine. Volume I: 1951–52*, 244
BURNETT, Sir M.: Ecology of virus diseases, 173

C

Carbohydrate oxidation, alternative routes of, 105
Cholinesterases, 138
Chromatic aberration, 31
—— —— correcting mechanism in, 33
Ciba Foundation Colloquia on Endocrinology. Vol. 1. Steroid hormones and tumour growth, and steroid hormones and enzymes, 166
Cold, common, 206
Colour adaptation, investigation of, 41
—— appreciation, factors influencing, 33
—— matching, binocular, 43
—— —— monocular, 42
—— vision, defective, 36
—— —— —— classification of, 37
—— —— —— incidence of, 38
—— —— —— social consequences of, 40
—— —— disorders of, 31
—— —— in peripheral retina, 55
—— —— individual differences in, 79
—— —— normal, limitations of, 39
—— —— polychromatic theory of, 34
—— —— tests, 39
Conjunctivitis, inclusion, chemotherapy of, 181
—— —— virus of, 229
Contributors, biographical notes on, 3, 87, 171
Convergence, ocular, influence on accommodation, 18
Cornea, nutrition of, 6
Cowpox in man, 194
Coxsackie viruses, 201
Cytochrome, 89
—— distribution of, 91
—— oxidase, 92
—— oxidation and reduction of, 91

D

DARTNALL, H. J. A.: Interpretation of spectral sensitivity curves, 24
DAVIDSON, J. N.: Enzymes acting on nucleic acids, 154
DAVSON, H.: Some problems concerning the formation and circulation of the aqueous humour, 5
Decarboxylases, amino-acid, 135
Deoxyribonuclease, 157
Deoxyribonucleic acid, 157
Deuteranopia, 37
DICK, G. W. A.: Yellow fever: a problem in epidemiology, 215
DICKENS, F.: Alternative routes of carbohydrate oxidation, 105
—— ed., symposium on some aspects of enzyme research, 85–168
Distemper, canine, 238
DIXON, M. & WEBB, E. C.: Phosphate-transferring enzymes, 110
DOWNIE, A. W. & MACDONALD, A.: Smallpox and related virus infections in man, 191

E

Elementary bodies, virus, 186
Emmetropia, 23
Encephalitides, post-infection, 234
Encephalitis, post-measles, 234
—— post-vaccinial, 234
—— post-variolar, 234
Energy transformation in living matter, 97
Enzyme research, some aspects of, symposium, 85–168
—— systems, action of drugs on, 142
Enzymes acting on nucleic acids, 154
—— adaptation and growth in, 150
—— adaptive, 150
—— mutations in, 151
—— phosphate-transferring, 110
—— related to β-glucuronidase, 126
EVANS, C. L.: *Principles of human physiology* [Starling], 11th ed., 83
EXPERT COMMITTEE ON HEPATITIS (WHO): *First report*, 242
Eye, absolute visual sensitivity of, 61
—— accommodation, controlling factors, 18

F

Fermentation, role of phosphates in, 160
FINCHAM, E. F.: Factors controlling ocular accommodation, 18

FINNEY, D. J.: *Statistical method in biological assay*, 167
Fluoroacetate poisoning, biochemical aspects, 118
Folic acid, metabolic interrelationship with *p*-aminobenzoic acid, 123
—— —— role in metabolism of micro-organisms, 122
Foodstuffs, degradation of, 97
Foot-and-mouth disease, medical interest in, 237
Fovea, tritanopia of, 32
Foveal centre, spectral sensitivity of, 52
Fractures, alkaline phosphatase in, 163
FUCHS, A., *see* SAMUELS, B., 81
FULTON, F.: Techniques for the study of viruses, 186
—— ed., symposium on viruses in medicine, 169–244

G

GALE, E. F.: Amino-acid decarboxylases, 135
γ-globulin in poliomyelitis, 199
GLEDHILL, A. W.: Some veterinary diseases of medical interest, 237
Gluconokinase, 112
β-Glucuronidase and related enzymes, 126
GRAY, C. H.: *The bile pigments*, 166
GRAY, J.: *History of the Royal Medical Society, 1737–1937*; edited by D. Guthrie, 84
GRAY, R. C.: Individual differences in colour vision; an essay review, 79

H

HANES, C. S.: Formation of peptides in enzymic reactions, 131
HARTRIDGE, H.: Chromatic aberration and the polychromatic theory, 31
Hepatitis, infectious, 221
—— —— clinical features, 222
—— —— epidemiology, 223
—— —— immunity, 224
—— —— measures of control, 224
—— —— pathogenesis, 223
—— serum, 222
Herpangina, 202
Hexokinases, 110
Hexosemonophosphate, oxidation of, 106
HINSHELWOOD, Sir C.: Adaptive enzymes, 150
Histaminase, 147
Histohaematin, 89
HORDER: *British encyclopaedia of medical practice*, 2nd ed., vol. 10, 83
Humour, aqueous. *See* Aqueous humour
HURST, E. W.: Chemotherapy of virus diseases, 180
—— Post-infection encephalitides, 234
Hyaluronidase, 129

I

Influenza, epidemic, viruses of, 208
—— prevention of, 210
INTERNATIONAL POLIOMYELITIS CONGRESS: *Poliomyelitis: papers and discussions presented at the Second International Poliomyelitis Conference*, 243
ISAACS, A.: Viruses of epidemic influenza, 208
ISHIHARA, S.: *Tests for colour-blindness*, 10th ed., 82

J

Jaundice, alkaline phosphatase in, 163
JUDD, D. B.: *Color in business, science, and industry*, 82

K

KEILIN, D. & SLATER, E. C.: Cytochrome, 89
KING, E. J.: Plasma alkaline phosphatase in disease, 160
KREBS, H. A.; Some aspects of the energy transformation in living matter, 97

L

Lens, nutrition of, 6
LEVVY, G. A.: β-Glucuronidase and related enzymes, 126
Light intensity, discrimination of, 52
—— —— effect on colour appreciation, 33
—— vergence, influence on accommodation, 19
Lymphogranuloma venereum, chemotherapy of, 180, 181
—— —— virus, 228

M

MACCALLUM, F. O.: Hepatitis, 221
MACDONALD, A., *see* DOWNIE, A. W., 191
Meningo-encephalitis, aseptic, 202
Mumps, 212
MURRAY, H. D.: *Colour in theory and practice*, new ed., 81
Myohaematin, 89
Myokinase, 112

N

Narcotics, action on enzyme systems, 144
Nerve, optic, electric records from, 68
Nucleic acids, enzymes acting on, 154
Nucleosides, 154
Nucleotides, 154

O

Optic nerve, vertebrate, electric records from, 68
Ornithoses, chemotherapy of, 181
Osteitis deformans, alkaline phosphatase in, 163
—— fibrosa cystica, alkaline phosphatase in, 163
Osteomalacia, alkaline phosphatase in, 163

P

Paget's disease of bone, alkaline phosphatase in, 163
PARSONS, Sir J. H.: Physiology of vision; introduction to symposium, 1
Pentose, formation from hexose, 106, 107
Pentosephosphate, 107
Peptides, formation in enzymic reactions, 131
PETERS, Sir R.: Some aspects of enzyme research; introduction to symposium, 85
—— Significance of biochemical lesions in the pyruvate oxidase system, 116
Phosphatase, alkaline, in bone diseases, 162
—— plasma alkaline, in disease, 160
Phosphates, role in fermentation, 160
6-Phosphogluconate, oxidation of, 106
Phosphohexokinases, 112
Phosphokinases, 110
Phosphomutases, 113
Phosphotransferases, 114
Physiology of vision, symposium, 1–84
PICKFORD, R. W.: *Individual differences in colour vision*, 79
PIRENNE, M. H.: Absolute sensitivity of the eye and the variation of visual acuity with intensity, 61
——*Vision and the eye*, 83
Plasma alkaline phosphatase in disease, 160
Pneumonia, primary atypical, chemotherapy of, 182
Poliomyelitis, Coxsackie viruses in, 203
—— epidemiology of, 197
—— γ-globulin in, 199
—— pathogenesis of, 196
—— vaccination, 198
—— virus, antigenic typing of, 198
—— —— tissue cultivation of, 197
Poliomyelitis: papers and discussions presented at the Second International Poliomyelitis Conference, 243
Polychromatic theory of colour perception, 34
Protanopia, 37
Psittacosis, chemotherapy of, 180, 181
—— virus, 227
Psittacosis-lymphogranuloma virus group, 226
Pyrophosphokinases, 113
Pyruvate oxidase system, biochemical lesions in, 116

Q

Q fever in Britain, 231
QUASTEL, J. H.: Action of drugs on enzyme systems, 142

R

Refraction, errors, nature of, 22
Retina, peripheral, colour vision in, 55
—— stimulation with light fields of small size, 50
RHODES, A. J.: Recent advances in the study of poliomyelitis, with particular reference to prevention, 196
Ribonuclease, 155
Ribonucleic acids, 154, 155
Rickets, alkaline phosphatase in, 162
Rickettsial infection in Britain, 231
Rift Valley fever, 240
RIVERS, T. M.: *Viral and rickettsial infections of man*, 2nd ed., 242
RUSHTON, W. A. H.: Electric records from the vertebrate optic nerve, 68
RUSSELL, W. R.: *Poliomyelitis*, 243

S

SAMUELS, B. & FUCHS, A.: *Clinical pathology of the eye: a practical treatise of histopathology*, 81
SLATER, E. C., *see* KEILIN, D., 89
Smallpox and related infections in man, 191
—— epidemiology of, 193
—— laboratory diagnosis of, 192
—— pathogenesis of, 191
—— prevention and control, 194
—— prophylaxis, 194
—— virus of, 192
SMITH, W.: Progress in viral immunology, 176
SOCIETY FOR EXPERIMENTAL BIOLOGY. *Symposia. VI. Structural aspects of cell physiology*, 166
SOCIETY FOR GENERAL MICROBIOLOGY: *Second Symposium. Nature of virus multiplication*, 242
SORSBY, A.: Nature of refractive errors, 22
Spectral sensitivity curves, interpretation of, 24
SPOONER, E. T. C.: Mumps, 212
STARLING, E. H.: *Principles of human physiology*, 11th ed., by C. L. Evans, 83
STILES, W. S.: Visual properties studied by subjective measurements on the colour-adapted eye, 41
—— ed., symposium on physiology of vision, 1–84
STOKER, M. G. P.: Q fever in Britain, 231
STUART-HARRIS, C. H.: *Influenza and other virus infections of the respiratory tract*, 244

T

TANSLEY, K.: Physiology of vision; bibliography of British books and periodicals, 75
Thiamine deficiency, biochemical aspects, 116
THOMPSON, R. H. S.: Cholinesterases, 138
THOMSON, L. C.: Stimulation of the retina with light fields of small size, 50
TOBIN, J. O'H.: Coxsackie viruses, 201
Trachoma, chemotherapy of, 181
—— virus, 229
Tritanopia, 37, 50
—— foveal, 32
Tryptamine derivatives, 148

U

Uveal circulation, 5

V

VERNON, M. D.: *A further study of visual perception*, 83
Veterinary diseases of medical interest, 237
Virus diseases, chemotherapy of, 180
—— —— ecology of, 173
—— —— immunological research in, 176
—— —— interference phenomenon in, 179
—— elementary body, 186
Viruses, antigenic complexity of, 178
—— antigenic lability of, 178
—— basic features of, 173
—— cultivation methods, 189
—— haemagglutination of, 177
—— host transfer of, 175
—— in medicine, symposium, 169-244
—— intracellular multiplication of, 189
—— patterns of survival in, 174
—— study of, techniques for, 186
Vision, acuity of, variations with intensity, 61
—— angle of, effect on colour appreciation, 33
—— physiology of; bibliography of British books and periodicals, 75
—— —— —— symposium, 1–84
Vitamin B_1 deficiency, biochemical aspects, 161

W

WEALE, R. A.: Colour vision in the peripheral retina, 55
WEBB, E. C., *see* DIXON, M., 110
WOLSTENHOLME, G. E. W. & CAMERON, M. P.: *Ciba Foundation Colloquia on Endocrinology. Vol. I. Steroid hormones and tumour growth, and steroid hormones and enzymes*, 166
WOODS, D. D.: Folic acid and related compounds in the metabolism of micro-organisms, 122
WORLD HEALTH ORGANIZATION: *Expert Committee on Hepatitis, first report*, 242
WRIGHT, W. D.: Defective colour vision, 36

Y

Yellow fever, control of, 218
—— —— epidemiology of, 215
—— —— viruses, 219

PRINTED IN ENGLAND BY SPOTTISWOODE, BALLANTYNE & CO. LTD., LONDON AND COLCHESTER